

Appl. No. 10/805,048
Amdt. Dated Sep. 19, 2005
Reply to Office Action of June 17, 2005

Amendments to the Specification:

Please replace the title with the following amended title:

**CURRENT DRIVING APPARATUS FOR GENERATING A DRIVING
CURRENT USING PWM**

Please replace paragraph [0001] with the following amended paragraph:

[0001] The present invention relates to a current driving apparatus, and particularly to a current driving apparatus using ~~PWM~~(pulse PWM (pulse width modulation).

Please replace paragraph [0010] with the following amended paragraph:

[0010] Other objects, advantages, and novel features of the present invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings[.]; in which:

Please replace paragraph [0018] with the following amended paragraph:

[0018] FIG. 8 is a signal timing diagram showing time vs. signal amplitude for four signals in a second comparator and in an FET of FIG. 3; and

Please replace paragraph [0020] with the following amended paragraph:

[0020] Referring to FIG. 1, a current driving apparatus according to the present invention comprises a first square wave generator 100, a second square wave generator 200, an ~~FET~~(~~Field~~ FET (Field Effect Transistor) 3, a power supply 9, a current clamping resistor 11, and a resistor 12. The first

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square wave generator 100 has an output terminal (not shown) connected to an input terminal (not shown) of the second square wave generator 200. The second square wave generator 200 has an output terminal (not shown) connected to the FET 3 gate. The current clamping resistor 11 is provided between the FET 3 source and the power supply 9. The resistor 12 is provided between the FET 3 drain and the possible load (not shown). A period of a low frequency square wave signal Vo1 generated by the first square wave generator 100 is 10 times that of a period of a high frequency square wave signal Vo2 generated by the second square wave generator 200. The FET 3 receives a voltage signal input and provides a current Io2 to the load.

Please replace paragraph [0025] with the following amended paragraph:

[0025] By changing the parameters of the resistors ~~404, 406, 408, 410~~ 404, 406, 408, 410 and the capacitor 403, the frequency of the output sawtooth wave signal can be changed. ~~[[So]] Thus, a same circuit layout of the low frequency sawtooth wave generator,~~ by changing parameter values of the ~~above-described~~ components, a same circuit layout of the low frequency sawtooth wave generator 4 can be used to generate a high frequency sawtooth wave signal.

Please replace paragraph [0026] with the following amended paragraph:

[0026] Certainly, there are other ways to generate a sawtooth wave signal, either a high frequency one or a low frequency one. In the present invention, the sawtooth wave generators are not limited to the foregoing form forms.